



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,595	12/12/2003	Raymond C. Kurzweil	14202-005001	1751
26161 7590 12/17/2009 FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022				
EXAMINER DUFFY, DAVID W				
ART UNIT		PAPER NUMBER		
3714				
NOTIFICATION DATE		DELIVERY MODE		
12/17/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary

Application No.

10/735,595

Applicant(s)

KURZWEIL, RAYMOND C.

Examiner

DAVID DUFFY

Art Unit

3714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status of Claims

1. This office action is in response to the amendment filed 10/13/2009 in which applicant amends claims 1-25. Claims 1-25 are pending.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-25 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of copending Application No. 10/734616, claims 1-20 of copending Application No. 10/734617, claims 1-26 of copending Application No. 10/734618, and claims 1-20 of copending Application No. 10/735294. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims are directed to

substantially similar subject matter of a remote sensing body and goggles for viewing the remote images.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Objections

4. Claim 7 is objected to because of the following informalities: "communication work" in the third line likely should be "communication network". Appropriate correction is required.
5. Claim 16 is objected to for appearing to claim a human being. The limitation "motion sensors positioned throughout the surface of a human" seems to incorporate the system into a human, which is not patentable.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 3-7, 9-11, and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 3 includes the limitation "a second humanoid robot, receiving, from the communications network, the motion signals from the motion sensors, the motion signals from the motion sensors causing a

movement of the second robot that is correlated to a movement of the body suit." This limitation implies that the body suit controls the first and second robots and is unsupported by the specification which has a one suit to one robot methodology. Claims 4-7, 9-11, and 13 inherit this deficiency by nature of their dependency.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 2-7, 8-11, 13, 20, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claim 2 includes the limitation "to a communications network" in the third line of the claim. It is unclear if this is to be a new communications network in addition to the one set forth in claim 1 or is actually a reference to the previous communication network. Claims 3-7, 9-11, and 13 inherit this deficiency by nature of their dependency because they do not clearly set forth to which network they are referring, if it is intended that there be two networks. As none of the dependant claims hint at a second network and only recite "the communications network", it is assumed that applicant erred and intends it to be the same general network and examiner is examining as such.

11. Claim 3 includes the limitation "a second humanoid robot, receiving, from the communications network, the motion signals from the motion sensors, the motion signals from the motion sensors causing a movement of the second robot that is correlated to a movement of the body suit." This limitation implies that the body suit controls the first and second robots. It is unclear from the specification how this would

be accomplished or how such a system would operate. It is assumed that applicant's claims are again in error and that a second body suit, such as is disclosed, was intended and examiner is examining as such. Claims 4-7, 9-11 and 13 inherit this deficiency by nature of their dependency.

12. Claim 7 includes the limitation "the microphone ... being a second microphone" in the fifth line of the claim. The wording of this limitation seems to refer to the first microphone, and thus raising the question of how the first microphone could be in two different locations at the same time. Claims 10 and 11 inherit this deficiency by nature of their dependency.

13. Claim 7 includes the limitation "the communication work" in the third line of the claim. There is insufficient antecedent basis for these limitations in the claim. It is again assumed that applicant has erred and that "communication network" was intended and examiner is examining as such. Claims 10 and 11 inherit this deficiency by nature of their dependency.

14. Claim 8 recites the limitations "the first location" and "the second location" in the third and fourth lines of the claim. There is insufficient antecedent basis for these limitations in the claim.

15. Claims 20, 21, and 23 all recite the limitation "the second mannequin", and each includes a limitation such as: "the second camera", "the second microphone", "the second audio signals", or "the second video image" in the claims. There is insufficient antecedent basis for these limitations in the claims. It is assumed that the dependency of the claims is incorrect and that applicant intended to have the claims depend from

claim 19 as that would address the errors of the claims. Examiner is examining the claims as though they depend from claim 19.

Claim Rejections - 35 USC § 103

16. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

17. Claims 1, 12, 14, 18, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee; Albert G. et al. (US 6016385 A) in view of Clapper; Edward O. et al. (US 6752720 B1).

18. In regard to claims 1 and 14, Yee discloses a first mannequin (fig 3), a first camera supported by the first mannequin for capturing a first image of a scene (5:11-13); and a first set of goggles to render a second image of a virtual scene from signals received from a communications network (4:2-5 and 5:13-17). Yee does not explicitly disclose overlaying a virtual environment over one or more portions of the real-time images to form a first image of a virtual scene.

19. In related prior art, Clapper discloses a remotely controlled robot (abstract) that receives real-time imagery from a camera mounted on the remote robot and overlays a virtual environment via a processor (3:60-10, 5:36-46 and figs 5 and 6). One of ordinary skill in the art would recognize the advantages of overlaying a virtual environment over the real-time camera images of a remote robot to provide a more interesting and entertaining system to the controller of the robot.

20. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee in view of Clapper to have overlaid a virtual environment

over the images from the camera using a processor to make a more entertaining and exciting system for controlling the robot.

21. In regard to claim 12, Yee discloses the set of goggles comprises a receiver to receive the image of the virtual scene (5:31-37, the goggles inherently have a receiver to receive the data they are displaying as otherwise they would be nonfunctional).

22. In regard to claim 18, Yee discloses sending first audio signals over the communications network; the first audio signals being produced from a first microphone coupled to the first mannequin and transducing the first audio signals received from the communications network using a transducer embedded in the first set of goggles (4:51-67).

23. In regard to claim 22, Yee discloses wherein the first set of goggles comprises a display to render the first virtual scene (5:11-14).

24. Claims 2 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee; Albert G. et al. (US 6016385 A) in view of Clapper; Edward O. et al. (US 6752720 B1) as applied to claim 1 above, and further in view of Dundon; Michael (US 7046151 B2).

25. In regard to claims 2 and 15, Yee discloses wherein the first mannequin is a first humanoid robot having tactile sensors positioned along the exterior of the first robot, the sensors sending tactile signals to a communication network and tactile actuators receiving the tactile signals from the communications network (7:49-58). Yee does not explicitly disclose the actuators being in a body suit; rather it only explicitly discloses a glove.

26. In related prior art, Dundon discloses an interactive body suit that permits users to interact over a network whereby the garment includes tactile actuators, the tactile actuators receiving tactile signals from the network (abstract). One of ordinary skill in the art would recognize the advantages of a full body suit to provide complete sensory experience to further Yee's suggestion of providing physical interactions to enable the operator to respond more naturally, more effectively, and more quickly to developing conditions at the robot site (3:15-20).

27. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee in view of Dundon to have incorporated a bodysuit with actuators to provide complete sensory experience to further Yee's suggestion of providing physical interactions to enable the operator to respond more naturally, more effectively, and more quickly to developing conditions at the robot site.

28. In regard to claims 16 and 17, Yee discloses sending motion signals from motion sensors positioned throughout the surface of a human, the motion signals corresponding to movements of each sensor relative to a reference point, the motion signals being transmitted to the communications network; receiving at the first robot the motion signals, and causing movement of the robot that is correlated to a movement of the human based on the motion signals by motion actuators moving the robot (at least 4:41-50, 5:5-10, and 6:15-41).

29. Claims 3-9, 11, 13, 19, 21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee; Albert G. et al. (US 6016385 A) in view of Clapper; Edward O.

et al. (US 6752720 B1) and Dundon; Michael (US 7046151 B2) as applied to claim 2 above, and further in view of Abbasi; Touraj (US 6786863 B2).

30. In regard to claims 3-8 and 19, Yee discloses the robotic system set forth above, which clearly could be duplicated to have two copies of the system each with robot to provide two total robots, but does not explicitly disclose two robots.

31. In related prior art, Abbasi teaches that remote physical contact using mechanical surrogates, i.e. robots, is desirable to expand on the notion of teleconferencing by adding a capability to engage in all types of physical contact (1:60-63) and would allow for improved medical examinations and improved human contact (1:44-57).

32. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee in view of Abbasi to use the robotic surrogates of Yee in two locations with two robots in order to expand on the notion of teleconferencing and improve human contact and medical examinations.

33. In regard to claims 9, 11, and 21, Yee discloses the communications network comprises an interface having one or more channels for receiving audio signals, first video image, sending signals to the goggles and sending audio signals with the second microphone positioned within an ear canal (4:2-5, 4:51-67, and 5:13-17).

34. In regard to claim 13 and 23, Yee discloses the system of claim 6, wherein the first robot comprises a transmitter to wirelessly send or receive audio, tactile, motion signals and the video images to or from the communications network (6:1-2).

35. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yee; Albert G. et al. (US 6016385 A) in view of Clapper; Edward O. et al. (US 6752720 B1), Dundon; Michael (US 7046151 B2), and Abbasi; Touraj (US 6786863 B2) as applied to claim 7 above, and further in view of Gutierrez; Frederic J. (US 4982281 A).

36. In regard to claim 10, Yee discloses the system of claim 7 above, with cameras located approximately in the position of the face of the humanoid robot (fig 3 and 5:11-13), but does not explicitly disclose the location being in an eye socket.

37. In related prior art, Gutierrez discloses that cameras may be located in the eyes of mannequins in order to hide their appearance (abstract). One of ordinary skill in the art would recognize the advantages of hiding the cameras of Yee in the eye sockets so that it does "not intimidate people, and in fact, be an object of curiosity, functionality, and entertainment for the general public" (Yee, 5:41-49).

38. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee to have placed the cameras in the eye sockets of the humanoid figure in order to hide the camera and not intimidate persons.

39. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yee; Albert G. et al. (US 6016385 A) in view of Clapper; Edward O. et al. (US 6752720 B1) as applied to claim 18 above, and further in view of Gutierrez; Frederic J. (US 4982281 A).

40. In regard to claim 20, Yee discloses the system of claim 18 above, with cameras located approximately in the position of the face of the humanoid robot (fig 3 and 5:11-13), but does not explicitly disclose the location being in an eye socket.

41. In related prior art, Gutierrez discloses that cameras may be located in the eyes of mannequins in order to hide their appearance (abstract). One of ordinary skill in the art would recognize the advantages of hiding the cameras of Yee in the eye sockets so that it does "not intimidate people, and in fact, be an object of curiosity, functionality, and entertainment for the general public" (Yee, 5:41-49).

42. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee to have placed the cameras in the eye sockets of the humanoid figure in order to hide the camera and not intimidate persons.

43. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee; Albert G. et al. (US 6016385 A) in view of Clapper; Edward O. et al. (US 6752720 B1), Dundon; Michael (US 7046151 B2), and Abbasi; Touraj (US 6786863 B2).

44. In regard to claims 24 and 25, Yee discloses a first mannequin (fig 3), that is a humanoid robot having tactile sensors and tactile actuators (7:49-58), a first camera supported by the first mannequin for capturing a first image of a scene (5:11-13); and a first set of goggles to render a second image of a virtual scene from signals received from a communications network (4:2-5 and 5:13-17). Yee does not explicitly disclose overlaying a virtual environment over one or more portions of the real-time images to form a first image of a virtual scene.

45. In related prior art, Clapper discloses a remotely controlled robot (abstract) that receives real-time imagery from a camera mounted on the remote robot and overlays a virtual environment via a processor (3:60-10, 5:36-46 and figs 5 and 6). One of ordinary

skill in the art would recognize the advantages of overlaying a virtual environment over the real-time camera images of a remote robot to provide a more interesting and entertaining system to the controller of the robot.

46. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee in view of Clapper to have overlaid a virtual environment over the images from the camera using a processor to make a more entertaining and exciting system for controlling the robot.

47. Yee does not explicitly disclose the first actuators and sensors being in a body suit; rather it only explicitly discloses a glove with tactile sensors and actuators (7:49-8:9).

48. In related prior art, Dundon discloses an interactive body suit that permits users to interact over a network whereby the garment includes tactile actuators, the tactile actuators receiving tactile signals from the network (abstract). One of ordinary skill in the art would recognize the advantages of a full body suit to provide complete sensory experience to further Yee's suggestion of providing physical interactions to enable the operator to respond more naturally, more effectively, and more quickly to developing conditions at the robot site (3:15-20).

49. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee in view of Dundon to have incorporated a bodysuit with actuators to provide complete sensory experience to further Yee's suggestion of providing physical interactions to enable the operator to respond more naturally, more effectively, and more quickly to developing conditions at the robot site.

50. Yee discloses the robotic system set forth above, which clearly could be duplicated to have two copies of the system each with robot to provide two total robots, but does not explicitly disclose two robots.

51. In related prior art, Abbasi teaches that remote physical contact using mechanical surrogates, i.e. robots, is desirable to expand on the notion of teleconferencing by adding a capability to engage in all types of physical contact (1:60-63) and would allow for improved medical examinations and improved human contact (1:44-57).

52. Therefore it would have been obvious to one skilled in the art at the time of the invention to have modified Yee in view of Abbasi to use the robotic surrogates of Yee in two locations with two robots in order to expand on the notion of teleconferencing and improve human contact and medical examinations.

Response to Arguments

53. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

54. Applicant argues with reference to Yee "that one of ordinary skill in the art would not have modified Yee to form an image of a virtual scene because the system would not work if the operator of the robot cannot see the real scene of the environment of the robot." Examiner finds this logic extremely flawed as in applicant's own system the user is looking at a virtual scene whilst piloting a remote robot. Clearly, one of ordinary skill in the art would not be so myopic as to so cover the images from the remote camera as to prevent adequate control. Additionally, the cited reference Clapper clearly shows that

such a configuration is not just possible but desirable for entertainment as well. One of ordinary skill in the art is presumed to have skills apart from what the prior art references expressly disclose. *In re Sovish*, 769 F.2d 738, 743 (Fed. Cir. 1985). A person of ordinary skill is also a person of ordinary creativity, not an automaton. *KSR*, 127 S.Ct. at 1742.

Conclusion

55. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Art is cited on attached PTO-892.

56. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID DUFFY whose telephone number is (571) 272-1574. The examiner can normally be reached on M-F 0830-1700.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571) 272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. D./
Examiner, Art Unit 3714

/Peter D. Vo/
Supervisory Patent Examiner, Art Unit 3714